

XXXVII.—*Descriptions and Records of Bees.*—LXXXVII.
By T. D. A. COCKERELL, University of Colorado.

Bombus prshewalskii, Morawitz.

Males from Gulmarg, Kashmir, 8500 ft., Sept. 17 (*Dutt*). I have compared them with a worker from China (North Ganj-su), received from Skorikov, and am satisfied that they belong to the same species. *B. tetrachromus*, Ckll., from Baltistan, has the same remarkable colours (the abdominal bands white, yellow, red, and then white again, the yellow a bright canary-colour), but the malar space is shorter.

Friese (1918) records *B. prshewalskii* (using the spelling *przewalskii*) from Sikkim, Tibet, and Assam.

Dianthidium meliponiforme, sp. n.

♀.—Length about 9 mm.

Black, robust, with the following parts chestnut-red: clypeus, mandibles (except cutting-edge), broad band along each inner orbit, elongate mark below middle ocellus, obscure band on cheeks, antennæ (flagellum dusky above), lateral margins and lateral thirds of anterior margin of mesothorax, tubercles and much of prothorax, axillæ, very broad apical band on scutellum, tegulæ, anterior tibiæ in front, and lower side of anterior femora; the abdomen has the hind portions of the first five segments broadly and suffusedly dark coppery reddish, but is without any distinct markings. Clypeus finely punctured; front densely and coarsely punctured; mesothorax very coarsely and densely punctured, except in the vicinity of the depressed middle line or sulcus, where the punctures are sparse, exposing the dullish surface; scutellum extending backward with a sharp edge, strongly emarginate in middle; metathorax rugulose and glistening; hair of head and thorax scanty, black. Wings suffused with reddish orange except apically; stigma (which is large) and nervures bright ferruginous; b. n. meeting t.-m.; second r. n. going far beyond end of second s.m. Legs with black hair, very abundant on hind tibiæ and tarsi; spurs black; first two abdominal segments shining and finely punctured, the others less distinctly punctured, the sixth black, rather sparsely punctured, and concave in lateral profile; sides of third and fourth abdominal segments with black hair, but fifth and anterior half of sixth with conspicuous pure white

hair on extreme lateral margins; ventral scopa dark reddish brown.

Sandakan, Borneo (*Baker*, 9965).

A very remarkable insect, nearest perhaps to the Indian *D. lachrymosum* (Smith). It looks like a *Melipona*.

Dianthidium cressonii, Dalla Torre.

Ward, Colorado, alt. 9250 ft., Aug. 10 (*Cockerell*).

Anthophora himalayensis, Rad.

Island of Penang (*Baker*).

This is *A. proserpina*, Gribodo, which Meade-Waldo found to be inseparable from *himalayensis*.

Anthophora confusa, Smith.

Murree, India, 7500 ft. (*Dutt*).

Pseudomelecta californica miranda (Fox).

Ute Pass, Colorado (*Frances Long*).

Taken at flowers of *Asclepias hallii*.

Megachile sandacana, sp. n.

♀.—Length about 13.5 mm.

Rather robust, black, with clear ferruginous femora, tibiae, and tarsi; head ordinary, with dense pale ochreous hair, except on clypeus, where the hair is long and so thin that the clypeus seen from in front appears nude; clypeus rugose but shining, with a very strong median keel on upper three-fourths, lower margin straight except for a slight crenulation; mandibles black, the cutting-edge long and very oblique, with only two teeth, the apical one long; thorax densely covered with pale ochreous hair, becoming fulvous on scutellum; mesothorax strongly punctured, the punctures mainly in transverse rows; tegulae red. Wings dusky reddish; abdomen broad and parallel-sided, the hind margins of the segments with entire bands of bright ferruginous hair, the rest of the dorsal surface covered with short thin red hair, except the first segment, which has longer fulvous hair; ventral scopa whitish basally, grading into copper-red apically.

Sandakan, Borneo (*Baker*, 9602).

Smaller than *M. bicolor* (Fab.), and without black hair on thorax above. Smaller than *M. takaoensis*, Ckll., and

abdomen differently ornamented. More robust than *M. rufofulva*, Ckll. In the character of the clypeus it resembles *M. ferruginea*, Friese, from Siam.

Megachile disjuncta (Fabricius).

Madras, July 17 (*T. V. R.*); Bangalore, March 28 (*T. V. R.*); Koduvur, Kurnool district, Aug. (*T. V. R.*).

These Indian specimens have the hair at end of thorax and base of abdomen pale fulvous. In a specimen from Deli, Sumatra (*Martin*), it is white.

Megachile aureobasis, Cockerell.

The female, hitherto unknown, comes from Bangalore, India, Aug. 25, at *Cosmos* flowers (*T. B. F.*). It is extremely like the Hawaiian *M. schauinslandi*, Alfken, differing by the absence of red hair on front and occiput, entire red hair-bands on second and third abdominal segments, and white bands (interrupted in middle) on fourth and fifth.

This is evidently the species which Bingham confused with *M. stulta*, Bingh.

Megachile ramakrishnæ, Cockerell.

Bangalore, March 28 (*T. V. R.*); Devanakonda, Aug. 15 (*T. V. R.*); Kodumur, Kurnool district (*Ramakrishna*).

Megachile fletcheri, sp. n.

♂.—Length nearly 13 mm.

With the coloration and general appearance of *M. bicolor* (Fabr.), with the same red hair on dorsum of thorax posteriorly, and white at sides of metathorax, the same colour of wings, and bright dense red hair on abdomen, I should refer it with little hesitation to *bicolor* (of which I possess only the female), but for the fact that it disagrees with Bingham's description of the male. The face is densely covered with pale cream-coloured hair, with no nude area; eyes green; head not proportionately larger than in female *bicolor*; anterior coxæ with large black spines; anterior femora, tibiæ, and tarsi red, the femora posteriorly and tibiæ on outer side black; anterior tarsi moderately dilated, with a large dark spot on inner side, and a rather long white fringe; middle legs black with the femora in front, and the tibiæ, except at apex and on outer side, red; hind legs

black; their spurs black; middle and hind tarsi thickened, with very long lateral fringes of shining creamy-white curled hair; keel of sixth abdominal segment strongly irregularly dentate, and emarginate in middle. Wings dusky reddish, stigma ferruginous, nervures fuscous.

Bangalore, India, Aug. 25, on *Cosmos* flowers (*T. B. F.*).

Structurally similar to *M. devadatta*, Ckll., from N. India, but larger and differing in many details.

Received from Mr. Ramakrishna Ayyar (No. 22).

Megachile geoffrei, n. n.

Megachile frederici, Meade-Waldo, Ann. & Mag. N. H., Nov. 1912, p. 474 (not Cameron, 1901).

Gambia and Nigeria.

Megachile atrata fulvipennis (Smith).

Both sexes, Sandakan, Borneo (*Baker*, 9970).

Megachile gemula albula (Lovell & Ckll.).

Minnehaha, Pike's Peak, Colorado (*Frances Long*). New to Colorado. At this locality Miss Long also took *Bombus occidentalis perixanthus* (Ckll. & Porter), *B. rufocinctus phaceliae*, Ckll., *Andrena edwiniae*, Ckll., *A. prunorum*, Ckll., *A. medionitens*, Ckll., *Osmia bruneri*, Ckll., *O. densa*, Cress., *O. fulgida*, Cress., *O. melanotricha*, Lov. & Ckll., *O. pentstemonis*, Ckll., *O. hypoleuca*, Ckll., *Anthophora smithii*, Cress., *A. simillima*, Cress., *Titusella pronitens*, Ckll., &c.

Pasites indicus, sp. n.

♀ (type).—Length a little over 6 mm.

Head and thorax black, abdomen clear ferruginous, the fifth segment blackened above; mandibles ferruginous, stout and simple; eyes reddish brown; scape black, red at apex; flagellum red, dusky above except basally; head and thorax with appressed silvery hair, tinged with brown on middle of mesothorax; tubercles red at end; tegulae clear ferruginous. Wings hyaline, tinged with brown; truncation of marginal cell broad, little oblique; first r.n. ending nearer to second than to base of second s.m.; b.n. meeting t.-m.; stigma and nervures ferruginous; tibiae and tarsi, and apices of femora, ferruginous. Abdomen shining, with large patches of appressed white hair at sides of first four

segments, on fourth extended to form a broad rather narrowly interrupted band; apical half of fifth segment covered with white hair; apex of abdomen truncate.

♂.—Similar to the female; antennæ 12-jointed, flagellum blackish except at base; first abdominal segment with a black spot on each side; apical plate of abdomen rounded, densely hairy above; labrum large, ferruginous, dusky in middle.

Pusa, Bihar, India, Sept. 1912 (*Dutt*).

Sent by Mr. T. Bainbrigge Fletcher (No. 5). This greatly extends the known distribution of the genus, the nearest previously known locality for *Pasites* being Quetta. Owing to its small size, this resembles *P. minutus*, Mocs., which, however, is even smaller. It also resembles that insect in the hardly bigibbous scutellum, but it differs in the coloration of the abdomen.

Crocisa minuta, Radoszkowski.

This little species was described from Mussooree, N.W. Provinces, and was not known to Bingham. A male and female from Chapra (*Mackenzie*), sent by Mr. T. B. Fletcher (No. 28), agree with the description, but the male (with the abdomen much contracted) is only about 6.5 mm. long. The anterior projection of the band on second abdominal segment is emarginate, and the whole band on each side of the segment has the outline of a jaw-bone.

Apis florea, var. *andreniformis* (Smith).

Sandakan, Borneo (*Baker*).

Heterapis sandacanicensis, sp. n.

♀.—Length about 3.2 mm.

Slender, shining black; clypeus with a large suboval reddish-white mark, but no other face-marks; middle of clypeus with dense excessively minute punctures, very much smaller than the facets of the eye (which are large); laterally these punctures run into longitudinal grooves, but the extreme sides of the clypeus are impunctate; labrum and mandibles reddish orange, the latter with curled hairs on outer side; antennæ dark brown above, yellowish fulvous below, flagellum short; upper edge of prothorax ciliated with white hair; mesothorax with sparse very minute piliferous punctures; scutellum similarly punctured, the disc flat; area of metathorax not defined, merely microscopically tessellate; tubercles and tegulæ testaceous. Wings hyaline;

nervures and stigma brown; b. n. falling very far short of t.-m.; first r.n. joining first t.-c.; third discoidal cell wholly confluent with second submarginal, *i.e.* the lower side of second s.m. lacking. Tibiæ and tarsi, and apices of femora, orange-testaceous; claws cleft, pulvillus large; abdomen practically impunctate, with very sparse hairs, apical half with microscopical lineolation; hind margins of segments brownish. Anterior tarsi with thickened hairs, curled at end.

Sandakan, Borneo (*Baker, 9977*).

Two specimens.

The genus *Heterapis* was based on two minute Australian species. The present insect, from Borneo, differs from both by the combination of minute size with a broad subquadrate head, but it is unquestionably congeneric. Perkins in 1912 added a third Australian species, also very distinct from that now described.

XXXVIII.—*Notes on the African and Asiatic Species of Melyris, Fab. (sensu lato), with an Account of their Sexual Characters: Supplementary.* By G. C. CHAMPION, F.Z.S.

AMONGST the eighty species of *Melyris* enumerated in my paper on these insects published in the October number of this Magazine (pp. 157–219), five only were recorded as having a modification of the intermediate or posterior tarsi in the males. This portion of the tarsal structure of four of them was figured: *M. parallela* on p. 204, *M. quadricollis* on p. 205, *M. klugi* on p. 208, and *M. bicalcarata* on p. 209. Owing, however, to an unfortunate mistake made in numbering the drawings of the Abyssinian *M. parallela* (No. 61) and *M. quadricollis* (No. 62), the figures and descriptions of the tarsi of these two insects have been transposed on pp. 204–206, and the error was not detected when the proofs were finally corrected by me during an enforced absence from home, and when the specimens were not at hand for checking purposes.

Figure 3 (*M. parallela*) shows the intermediate tarsus of *M. quadricollis*, ♂, and figure 4 (*quadricollis*) that of *M. parallela*, ♂; and the accompanying descriptions of the tarsal structure of *M. quadricollis* refer to *M. parallela*, and those of *M. parallela* to *M. quadricollis*.

M. albicoma (No. 36) should have been placed amongst the Somaliland forms, pp. 196–201.